



AGENDA

**VIRAL AND HOST GENETICS FACTORS REGULATING HIV/CNS
DISEASE
WASHINGTON MARRIOTT
WASHINGTON DC
NOVEMBER 20-22, 2002**

Wednesday, November 20, 2002

7:30 - 8:00 AM

Continental Breakfast

8:00 - 8:15 AM

Welcoming Remarks

Dianne Rausch, Ph.D.

Deputy Director

Center for Mental Health Research on AIDS

National Institute of Mental Health

Bethesda, MD

Introduction of Keynote Speaker

Eugene Major, Ph.D.

Acting Deputy Director

National Institute of Neurological Disorders and Stroke

Bethesda, MD

8:15 - 8:55 AM

Keynote Presentation

Max Essex, D.V.M., Ph.D.

Harvard AIDS Institute, Boston, MA

Rapid Evolution of HIV-1 in Africa

8:55 - 9:00 AM

Introduction and Meeting Overview

Jeymohan Joseph, Ph.D.

National Institute of Mental Health

Session I

HIV Compartmentalization in CNS/CSF vs. Periphery

Session Chair	David Clifford, M.D. Washington University School of Medicine, St. Louis, MO
9:00 - 9:20 AM	Ron Ellis, M.D., Ph.D. University of California, San Diego, CA Clinical Implications of Divergent Evolution of HIV in the CNS
9:20 - 9:40 AM	Peter Simmonds, Ph.D. University of Edinburgh, UK CNS Specific Sequences, Timing, Recombination and Evolution
9:40 - 10:00 AM	Ronald Swanstrom, Ph.D. University of North Carolina, Chapel Hill, NC Use of the Heteroduplex Tracking Assay to Identify and Compare HIV-1 Populations
10:00 - 10:20 AM	Break
10:20 - 10:40 AM	Suzanne Gartner, Ph.D. Johns Hopkins University, Baltimore, MD Studies of HIV <i>pol</i> and <i>env</i> Sequences from Brain, Bone Marrow and Lymph Node
10:40 - 11:00 AM	Brian Wigdahl, Ph.D. Penn State College of Medicine, Hershey, PA Molecular Determinants of HIV-1 CNS Disease Progression
11:00 - 11:20 AM	Joseph Wong, M.D. University of California, San Diego, CA Effect on Antiretroviral Treatment on Composition of Viral Populations in CSF
11:20 - 11:40 AM	Paul Clapham, Ph.D. University of Massachusetts Medical Center, Worcester, MA Coreceptor use and Cell Tropisms Conferred by Complete HIV-1 Envelope Genes Derived from Brain Tissue by PCR
11:40 - 12:10 PM	Discussion
12:10 - 1:30 PM	Lunch

Session II

Regional and Cell Type Specific Compartmentalization of HIV-1

Session Chair	Kamel Khalili, Ph.D. Temple University, Philadelphia, PA
1:30 - 1:50 PM	Janice Clements, Ph.D. Johns Hopkins University, Baltimore, MD The CNS as a Viral Reservoir with Compartmental Regulation: Steady State Levels of Viral DNA But Not Viral RNA
1:50 - 2:10 PM	Carol Petito, M.D. University of Miami School of Medicine, Miami, FL Regional Compartmentalization of HIV in the CNS
2:10 - 2:30 PM	Eugene Major, Ph.D. National Institute of Neurological Disorders and Stroke, Bethesda, MD The Role of Astrocytes in the Pathogenesis of HIV-1 Encephalopathy
2:30 - 2:50 PM	David Volsky, Ph.D. St. Luke's Roosevelt Hospital Center, New York, NY HIV-induced Changes in Gene Expression and Function of Astrocytes: Potential Role in Neuropathogenesis
2:50 - 3:10 PM	Francisco Gonzalez-Scarano, M.D. University of Pennsylvania, Philadelphia, PA Analysis of SIV Envelope Sequences from Individual Giant Cells and Tissue Samples
3:10 - 3:40 PM	Discussion
3:40 - 4:30 PM	Break and Poster Set up
4:30 - 7:00 PM	Poster Session and Reception

Thursday, November 21, 2002

7:30 - 8:00 AM Continental Breakfast

Session III

**Viral Evolution and Emergence of Drug Resistance in CNS during
HAART**

Session Chair	Christine Zink, D.V.M., Ph.D. Johns Hopkins University, Baltimore, MD
8:00 - 8:20 AM	Justin McArthur, M.B.B.S., M.P.H. Johns Hopkins University, Baltimore, MD HIV/CNS Disease in the Era of HAART: An Overview
8:20 - 8:40 AM	David Haas, M.D. Vanderbilt University, Nashville, TN Sequence Heterogeneity in CSF and Plasma among Patients Receiving Antiretroviral Therapy
8:40 - 9:00 AM	Bruce Brew, M.B.B.S., M.D., F.R.A.C.P. St. Vincents Hospital Sydney, Australia Peripheral Blood Monocyte Count as a Marker for CSF Resistance to Antiretroviral drugs
9:00 - 9:20 AM	Richard Price, M.D. University of California, San Francisco, CA Antiretroviral Treatment Interruption: Analysis of Treatment Effects and Virus-Cell Traffic by Subtraction
9:20 - 9:40 AM	Paola Cinque, M.D. San Raffaele Hospital, Milan, Italy RT and Protease Analysis in CSF and Plasma: Correlations with CNS Disease and Response to Therapy
9:40 - 10:00 AM	Discussion
10:00 -10:20 AM	Break

Session IV

Host Genetic Factors Associated with HIV/CNS Disease

Session Chair	Lynn Pulliam, Ph.D. University of California, San Francisco, CA
10:20 - 10:40 AM	Howard Fox, M.D., Ph.D. The Scripps Research Institute, La Jolla, CA Functional, Structural, and Molecular Changes in Simian NeuroAIDS
10:40 - 11:00 AM	Ramon-Diaz Arrastia, M.D., Ph.D. University of Texas S.W. Medical Center, Dallas, TX Host Genetic Polymorphisms and HIV-associated Dementia
11:00 - 11:20 AM	Howard Gendelman, M.D. University of Nebraska Medical Center, Omaha, NE Regional Neuroimaging, Proteomics, and Host Genetics in HIV Neuropathogenesis
11:20 - 11:40 AM	Jenae Limoges, M.D. University of Nebraska Medical Center, Omaha, NE Novel Genes Associated with HIV Encephalitis
11:40 - 12:00 PM	Sunil Ahuja, M.D. University of Texas Health Science Center, San Antonio, TX HIV-1 Infection and AIDS Dementia are Influenced by a Mutant MCP-1 Allele linked to Increased Monocyte Infiltration of Tissues and MCP-1 Levels.
12:00 - 12:20 PM	Discussion
12:20 - 2:00 PM	Lunch

Session V

HIV Viral Genetics and Neuropathogenesis: Functional Studies

Session Chair	Harris Gelbard, M.D., Ph.D. University of Rochester Medical Center, Rochester, NY
2:00 - 2:20 PM	Ron Collman, M.D. University of Pennsylvania, Philadelphia, PA HIV-1 Envelope-Macrophage Interactions in Relation to Neuropathogenesis
2:20 - 2:40 PM	Stuart Lipton, M.D., Ph.D. The Burnham Institute, La Jolla, CA Signaling Pathways to Neuronal Damage and Apoptosis in HIV-1 associated Dementia (HAD): Glutamate Receptors and Beyond
2:40 - 3:00 PM	Dennis Kolson, M.D., Ph.D. University of Pennsylvania, Philadelphia, PA Modeling HIV/Macrophage Neurotoxicity: Apoptosis <i>in vitro</i> and <i>in vivo</i>
3:00 - 3:20 PM	Olimpia Meucci, M.D., Ph.D. Drexel University College of Medicine, Philadelphia, PA Regulation of Cell Cycle Proteins by Chemokine Receptors: A Novel Pathway in HIV Neuropathogenesis
3:20 - 3:40 PM	Break
3:40 - 4:00 PM	Christopher Power, M.D. University of Calgary, Calgary, Canada Comparative Neurovirulence in Lentiviral Infections: The Role of Envelope Molecular Diversity
4:00 - 4:20 PM	Avi Nath, M.D. Johns Hopkins University, Baltimore, MD Increased vulnerability of ApoE4 neurons to <i>Tat</i> and Morphine
4:20 - 4:40 PM	Roger Pomerantz, M.D. Thomas Jefferson University, Philadelphia, PA Specific HIV-1 Proteins Induce Neuronal Apoptosis
4:40 - 5:30 PM	Discussion

Friday, November 22, 2002

7:30 - 8:00 AM Continental Breakfast

Session VI

Animal Models for Viral Genetic Studies

Session Chair **Opendra Narayan, D.V.M., Ph.D.**
University of Kansas Medical Center, Kansas City, KS

8:00 - 8:20AM **Kenneth Williams, Ph.D.**
Harvard Medical School, Cambridge, MA
SIV and HIV Infection of Macrophage Populations in the Brain and Lymph Organs

8:20 - 8:40 AM **Shilpa Buch, Ph.D.**
University of Kansas Medical Center, Kansas City, KS
Cytokine, Chemokine, and Macrophage Interplay in NeuroAIDS

8:40 - 9:00 AM **Todd Reinhart, Sc.D.**
University of Pittsburgh, Pittsburgh, PA
Local Changes in Gene Expression during SIV Encephalitis.

9:00 - 9:20 AM **Break**

9:20 - 9:40 AM **Lisa Strelow, Ph.D.**
Oregon Health and Science University, Beaverton, OR
A Macaque Model of HIV-Induced CNS Dysfunction

9:40 - 10:00 AM **Yuri Persidsky, M.D., Ph.D.**
University of Nebraska, Omaha, NE
Utility of SCID Mouse for HIV Viral Genetic Studies in the CNS

10:00 -10:20 AM **Oliver Keppler, M.D.**
Gladstone Institute of Virology & Immunology, San Francisco, CA
Progress toward a Transgenic Rat Model to Study HIV Neuropathogenesis

10:20 - 10:50 AM **Discussion (for Animal Models Session)**

10:50 - 12:00 PM **Critical Areas for Future Research**

Discussion Panel David Clifford, M.D.
Kamel Khalili, Ph.D.
Christine Zink, D.V.M., Ph.D.
Lynn Pulliam, Ph.D.
Harris Gelbard, M.D., Ph.D.
Opendra Narayan, D.V.M., Ph.D.